

shorter than the measurements given by Godman* and Hartert †.

***Oceanodroma furcata* (Gmelin).**

Procellaria furcata Gm. Syst. Nat. i. pt. 2. 1789, p. 561 :
"Habitat in glacie maris, Americam et Asiam interfluentis."

The Grey Fork-tailed Petrel is found in the northern Pacific Ocean south to California. It breeds on Copper Island, in Behring Sea, Aleutian Islands, etc., and probably on the Kurils ‡. In Japan, it has been obtained in summer near Kobe, S. Hondo §, and in spring near the mouth of the Abe River, Prov. Suruga ¶. A specimen was obtained in Sagami Bay and reported by the late Mr. Ogawa ¶.

I have an adult specimen which measures as follows :—

	Loc.	Exposed culmen.	Wing.	Tail.	Tarsus.	Mid. toe and claw.	Depth of tail-fork.
Kuroda's Coll. No. 546.	Suruga Bay.	15.5 mm.	161	90 (lateral) 64.5 (central)	25	27.5	23

XXV.—*On the Representatives of Corythornis leucogaster (Fraser) in the Cameroon and the Congo.* By JAMES P. CHAPIN, American Museum of Natural History.

(Plate V.)

WHEN Professor Oscar Neumann** called attention to the differences of colour and dimensions that distinguish his Upper Guinea race, *Alcedo leucogaster bowdleri*, from the typical form of Fernando Po, he remarked also that the

* Godman, Monogr. Petrels, i. p. 35.

† Hartert, *l. c.* p. 1416.

‡ Blakiston and Pryer, *Ibis*, 1878, p. 218; Stejneger, *l. c.* xxi. p. 278; Hartert, *l. c.* p. 1417.

§ Hartert, *l. c.* p. 1417.

¶ Ogawa, "Dobutsugaku Zasshi," xviii. 1906, p. 159.

¶ Ogawa, Annot. Zool. Japon. 1908, p. 339.

** Bull. Brit. Orn. Cl. xxiii. 1908, p. 14.



Map of Africa to show the distribution of the KINGFISHERS of the
CORYTHORNIS LEUCOGASTER group.
 Circles indicate the type localities.

subspecies found in southern Cameroon and Gaboon is smaller than the typical island-form. But he made a mistake in adding the Congo to its range, and in applying the name *Ispidina leopoldi* Dubois to the Cameroon bird. The coloured plate accompanying Dubois's original description * shows clearly that this little Kingfisher from the central Congo has a deep blue superciliary or temporal line, instead of a rufous one glossed with lilac. As I shall show, *leopoldi* is a distinct species—or at least an unusually well-marked subspecies—and the Cameroon bird is still without a subspecific name.

Although it seems scarcely necessary to refer the Kingfishers of this small group to *Alcedo*, they certainly do not belong to *Ispidina*, if we accept the generic characters as usually stated, for the bill is here plainly higher than broad at the nostril. So they are best placed in *Corythornis*. Mr. W. de W. Miller has already shown † that a subfamily distinction cannot rightly be drawn, as in Sharpe's 'Hand-list,' between *Corythornis* and *Ispidina*. Even their generic demarcation is not very trenchant.

Neumann's statement as to the larger size of *Corythornis leucogaster* from Fernando Po is borne out by my examination of the material in the British Museum, as well as at Tring, Tervueren, Berlin, and Pittsburg. To be sure, only three specimens from Fernando Po could be found, but as compared with twenty-five specimens from the neighbouring part of the continent they show markedly greater dimensions. Indeed, the two adults from the island—in length of bill, its height at nostril, and in length of wing—exceed every member of the series of twenty-two mainland adults. The greater thickness of the bill, especially, is very noticeable in the island-birds, even though it may seem less striking when expressed in tenths of millimetres. But this difference has an exact parallel in the larger bills of *Corythornis nais* (= *galerita*) and *C. thomensis*, island-forms of the Gulf of Guinea, as compared with the continental *C. cristata* ‡.

* Annales Mus. Congo, Zoologie, (4) i. fasc. 1, 1905, p. 10, pl. vi. fig. 1.

† Bull. Amer. Mus. Nat. Hist. xxxi. 1912, p. 242.

‡ I follow Claude Grant, Ibis, 1915, p. 263, in the use of Vroeg's name for the Malachite-crested Kingfisher.

The two adult specimens of *C. l. leucogaster* that I examined are the type, without sex, from "Fernando Po," in the British Museum, and one labelled ♀, collected by A. Schultze at San Carlos, Fernando Po, in the Berlin Museum. In the British Museum there is another example, plainly immature, labelled ♂, from Fish Town, Fernando Po, taken by Seimund. In length of wing (60 mm.) and height of bill (7.6)* it exceeds any mainland bird, but in length of culmen (28), as might be expected, it is surpassed by many of them.

The comparative measurements in millimetres of adults may be summarized as follows:—

	Wing.	Exposed culmen.	Height of bill at nostril.
<i>C. l. leucogaster.</i> 2 adults*	59, 63	32, 34.5	7.7, 8.2
<i>C. l. batesi.</i> 13 adult males...	53-58 (56.1) †	27.5-31.2 (30.1)	6.4-7.1 (6.7)
7 ,, females.	54.5-59.5 (57.0)	26.5-30.0 (28.7)	6.4-7.0 (6.7)

* The smaller of these two is the type.

† Averages in parenthesis.

On this basis I need not hesitate to name the mainland form.

***Corythornis leucogaster batesi* subsp. nov.**

Subspecific characters.—Similar to *C. l. leucogaster* (Fraser) of Fernando Po in pattern and coloration, but smaller, with a slenderer bill.

Type.—♂ adult, Bitey, southern Cameroon. Oct. 3, 1913 (*G. L. Bates*), now No. 156061, American Museum Nat. Hist. Measurements: wing 55; tail 23; exposed culmen 30.5; height of bill at nostril 6.6.

Specimens examined.—Cameroon: Bimbia, 1 ♂; 25 miles from Kribi, 1 ♂; Nkonangi, 1 ♀; Efulen, 3 ♂, 3 ♀, 1 ♀?; River Ja, 4 ♂ ad., 1 ♂ imm.; Sakbayeme, 1 ♀, Lolodorf, 2 ♂, 2 ♀, 1 without sex.

* At the British Museum bills were measured with sliding calipers provided with a vernier. In other cases fine-pointed dividers were used, and a rule divided in half-millimetres.

Gaboon : Lake Erzanga, 1 ♂ ; "Gaboon," 2 without sex.
 Enclave of Cabinda : Landana, 1 ♂ .

This race is named in honour of Mr. G. L. Bates, by whom were collected eleven of the twenty-five specimens I have examined.

The Second known Specimen of Leopold's Kingfisher.

A female example taken near Avakubi, Ituri District, by the American Museum Congo Expedition, was identified as an adult of *Ispidina leopoldi* Dubois, of which the type-specimen from the region of Lake Leopold II. was certainly immature. The light tip of the bill, as shown in the coloured plate, would alone be an indication of this in any of the related species.

Last December I had an opportunity of comparing our specimen with Dubois' type in the Congo Museum, at Tervueren, and of noting the agreement in pattern and, indeed, everything not plainly dependent on the immature condition of the type. The lighter blue back of the latter and its paler rufous flanks are accounted for by this difference in age. It is worthy of mention that the older bird, although the tip of its bill is worn as though from digging its nest (for the ovary was slightly enlarged), has the bill largely brownish and not light red as in adults of *Ispidina picta* or *Corythornis cristata*.

In the case of an adult male of *C. l. batesi* from Lake Erzanga, Gaboon, in Lord Rothschild's museum, Ansorge described the bill as "reddish black" on the upper mandible, "burnt sienna" on the lower; and so the Gaboon bird perhaps approaches that of the Upper Congo in this respect. This same example has possibly a slightly narrower, rufous, superciliary line than Cameroon specimens, yet it is still very unlike *C. leopoldi*.

Unless intergradation proves to take place in the region of the Sanga River, *Corythornis leopoldi* may be regarded as a distinct species, differing from *C. leucogaster* in its dark blue superciliary line, as shown in Dubois's plate, also in the

narrower, lighter, and more greenish-blue bars on the crown-feathers, which form a slight crest. The blue tips of its wing-coverts are darker, and much less noticeable; the same is true of the scapulars. They are nearly black.

From *Corythornis cristata* it differs widely in the colours of its lower parts, as it does also from *C. nais*, with which I have carefully compared it. These last two forms have both much longer crests and blue lateral margins on the crest-feathers; yet a few crown-feathers of *C. leopoldi* show blue edgings as well, the blue of the cross-bars being intermediate in shade between the deep blue of *nais* and the "malachite" in *cristata*.

A full description of the adult female of *C. leopoldi* follows:—

Feathers of crown elongated, but none more than 14 mm. in length; their colour black, with a narrow subterminal bar of light cerulean blue*, some of the longest feathers also bordered laterally with cendre-blue, the bars becoming on the nape deeper blue, more like the back. Forehead black, barred with blue, a band of Hay's blue passing over the eye, and broadening as it goes back to the nape. The usual elongate spot behind the ear-region white. Loral region rufous, spotted just in front of eye with black; cheeks, ear-coverts, sides of breast, and flanks rich vinaceous-rufous; chin, throat, middle of lower breast and abdomen pure white, upper breast washed with rufous. Middle of back, rump, and upper tail-coverts glossy blue-violet; scapulars and wing-coverts black, washed or margined with azurite-blue. Remiges black, bordered internally with apricot-buff, outermost primary with a narrow external margin of rufous basally. Under wing- and tail-coverts ferruginous, feathering of tibiae largely blackish. Rectrices black, all but the outermost bordered with deep blue; tail slightly rounded, outer pair of feathers 3 mm. shorter than the middle.

Bill red at tip, shading basally to dusky brown; feet scarlet.

Measurements: length (skin) 110 mm.; wing 54; tail 23;

* Ridgway, 'Color Standards and Color Nomenclature,' 1912.

bill (exposed culmen) 27; depth of bill at nostril 6.8; width at same point 5.6; metatarsus 8. For the type-specimen Dubois gave: wing 50 mm.; culmen 23; tarsus 8.

The known distribution of *Corythornis leopoldi* now includes the region of Lake Leopold II. and the Ituri forest at Avakubi, where this single specimen (all we ever saw) was found along a small forest-brook. It may be of interest to note that in this region of dense forest—unbroken save for the clearings of mankind—*Corythornis cristata* is extremely rare, even along the banks of a large river like the Ituri.

XXVI.—*On the Birds of the Province of Hupeh in Central China.* By J. D. LA TOUCHE, C.M.Z.S., M.B.O.U.

THE following notes are based on a small collection of birds made from August 1918 to May 1919, almost entirely in the Chang-yang Hsien, a district of the province of Hupeh on the south bank of the Yangtse, south-east of Ichang, and not far from the Hunan border. The Chang-yang district is within the region explored by the late Mr. Walter R. Zappey, the very able collector who accompanied Mr. E. H. Wilson in his journeys throughout Hupeh and Szechuen, and who made in those provinces for Mr. John Thayer, the magnificent collections of vertebrates now deposited in the Museum of Comparative Zoölogy at Harvard College, Cambridge, Mass. Zappey obtained in Chang-yang Hsien forty species of birds. Amongst these were:—*Dryobates pernyi*, *Babax lanceolatus*, *Trochalopteryx ellioti*, *Yuhina diademata*, and *Pyrrhula erythaca altera*, none of which was obtained by my hunter. The country in that part of Hupeh is mountainous, the elevation reaching, as I was informed by Mr. Wilson, to at least 6000 feet.

The country about Shasi, where I was stationed from November 1917 to May 1919, is perfectly flat, and consists of a cultivated plain, much broken by swamps, creeks, and lakes. I did practically no collecting at Shasi, and the few